

1. IN BRIEF

A bit of relief from the previous months dry conditions was experienced in some parts of the country, with wet conditions observed in some parts of the country. Rainfall ranged from *well below average* to *well above average*, with most of the stations in the Western, Central, as well as parts of the Northern Division, experiencing wetter than usual conditions. Rarawai Mill (Ba), Tavua and Udu Point recorded twice their normal monthly rainfall. *Well below average* rainfall was observed at Rotuma, Nabouwalu, Savusavu Airfield, Lakeba and Ono-i-Lau.

Overall, out of the 27 rainfall monitoring stations that reported in, in time for the compilation of bulletin, 3 recorded *well above average* rainfall, 11 *above average*, 7 *average*, 1 *below average* and 5 recorded *well below average* rainfall (Table 2, Figures 1-5).

The highest monthly rainfall of 356.7mm was observed at Monasavu, followed by Udu Point with 267.6mm, Navua with 252.0mm, Nausori Airport with 223.2mm, Nasinu with 222.5mm, Laucala Bay (Suva) with 215.3mm, Koronivia with 196.3mm and Vunisea with 196.0mm.

On temperatures, the month's warmest day-time temperature of 33.7°C was observed at Yaqara on the 19th,

followed by both Seaqaqa and Labasa Airfield with 33.6°C on the 18th, and 19th, respectively, Matuku with 32.8°C on the 19th, Nadi Airport with 32.6°C on the 20th, and Viwa with 32.3°C on the 19th.

The months lowest night-time temperature of 10.9°C was recorded at Nadarivatu on the 7th, followed by Labasa Airfield with 12.8°C on the 7th, Rarawai Mill (Ba) with 13.0°C on the 8th, Sigatoka and Seaqaqa both with 13.7°C on the 6th and 7th, respectively, and Monasavu with 13.8°C on the 31st.

Southeasterly winds were dominant at Nadi Airport, Savusavu Airfield and Matei Airfield, while easterly winds were dominant at Nausori Airport (Figure 7).

Warmer than normal sea surface temperature anomalies were observed at most parts of the country, while cooler than normal SST anomalies were observed across Vatu-I-ra passage (Figure 8).

Above normal sea level anomalies persisted across most of the Fiji Waters during August (Figure 10).

2. WEATHER PATTERNS

The month of August was characterized by east to southeasterly winds, cool nights associated with southerly winds, enhanced trade showers and periods of increased rainfall particularly in the latter half due to the troughs of low pressure.

The month began with prevailing southeast winds before a cold front passed over the southern parts of the Fiji Group on the 4th. Cold southerly winds followed the cold front. From 6th to 8th, south to southeasterly winds with continuing cool night time temperatures prevailed.

From the 9th to 13th August, winds were predominantly southeasterly, followed by easterly winds, which developed thereafter and continued until the 19th, slightly enhancing showers over the windward side of Fiji.

Southeasterly winds redeveloped from the 20th till 23rd, with easterly winds returning from the 24th coupled with slightly enhanced showers over windward side of Fiji.

An active trough of low pressure affected the Fiji Group on the 25th and 26th, resulting in widespread heavy rainfall,

with several stations recording rainfall in excess of 100mm within 24 hours with the highest at around 200mm. Low-level wind convergence and good moisture content allowed for the rapid development of rainfall bands and affected the country from the west gradually sweeping across the group.

Towards the end of the month, a weak trough lingered just northeast of Fiji, bringing isolated showers over northern Lau and eastern Vanua Levu.

For Rotuma the month began with easterly winds of around 20 knots prevailed until the 5th, when a trough of low pressure brought east to southeast winds and persisted until the 6th. From the 7th till the 12th, southeast winds dominated, followed by a weak trough on the 13th, which caused some enhanced showers. Easterly to southeasterly winds prevailed from the 14th to the 25th, followed by an active trough on the 26th that brought significant rainfall over the island. The trough cleared on the 27th as southeast winds redeveloped. A weak trough affected the island again from the 28th till the end of the month with isolated showers experienced.

3. RAINFALL

A bit of relief from the previous months dry conditions were observed during August, with variable rainfall patterns recorded. Rainfall ranged from *well below average* to *well above average* across the country. Majority of the stations in the Western and Central Divisions, experienced wetter than usual conditions, with Rarawai Mill (Ba), Tavua and Udu Point recording twice their normal monthly rainfall.

Well below average rainfall was observed at Rotuma, Nabouwalu, Savusavu Airfield, Lakeba and Ono-i-Lau.

Overall, out of the 27 rainfall monitoring stations that reported in, in time for the compilation of bulletin, 5 recorded *well below average* rainfall, 1 *below average*, 7 *average*, 11 stations with *above average*, and 3 with *well above average* rainfall (Table 2, Figures 1-5).

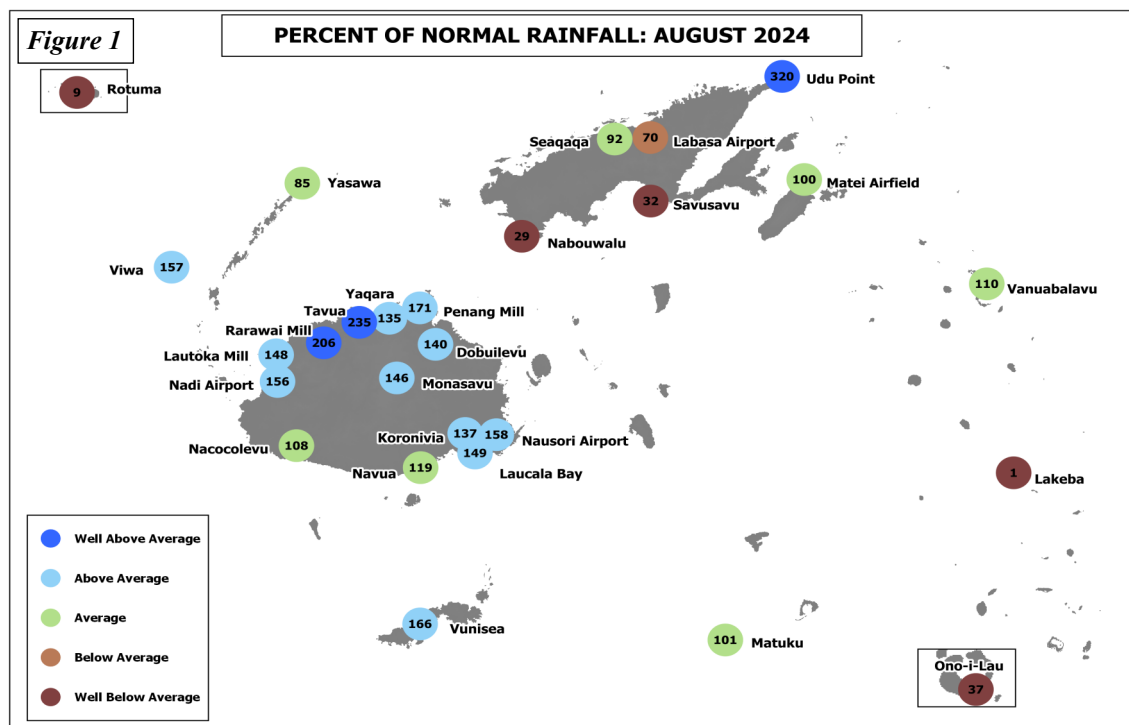
The highest monthly rainfall of 356.7mm was observed at Monasavu, followed by Udu Point with 267.6mm, Navua with 252.0mm, Nausori Airport with 223.2mm, Nasinu with 222.5mm, Laucala Bay (Suva) with 215.3mm, Koronivia with 196.3mm and Vunisea with 196.0mm. On the other hand, Lakeba recorded the month's lowest total monthly rainfall of 0.5mm, followed by Levuka with 13.5mm, Rotuma with 22.5mm, Savusavu Airfield with 31.9mm, Nabouwalu with 32.8mm, Sigatoka with 35.0mm and Ono-i-Lau with 44.7mm (Table 2).

Notably a trough present from 25th to 26th resulted in majority of the stations recording significant daily rainfall on the 25th. The highest 24-hour rainfall of 214mm was

recorded at Monasavu on the 25th, followed by Udu Point with 168mm on 30th, Tavua with 157mm on the 25th, Laucala Bay (Suva) with 153mm on the 25th, Nasinu with 147mm on the 25th, Nausori Airport with 137mm on the 25th, Navua and Rarawai Mill (Ba) both with 131mm on the 25th, Nadarivatu with 125mm on the 25th, Viwa with 122mm on 25th, Koronivia with 118mm on 25th, Vunisea with 104mm on 1st, Lautoka Mill with 103mm on 25th and RKS Lodoni with 100mm on the 25th.

Monasavu recorded the highest number of rain days (rainfall ≥ 0.1 mm) with 23 days, followed by both Udu Point and Koronivia with 19 days, Matei Airfield with 18 days, Laucala Bay (Suva), Nausori Airport and Navua all with 17 days, RKS Lodoni and Ono-i-Lau both with 15 days. Consequently, Lakeba recorded least number of rainfall days with 1 day, followed by Momi, Yaqara, Keiyasi, Nadi Airport, Lautoka Mill, Rarawai Mill (Ba) and Tavua all with 2 days, and Yasawa-i-Rara and Viwa both with 3 days.

Monasavu and Viwa recorded their highest daily rainfall of 214.0mm and 122.5mm, subsequently on the 25th, since observations began in 1980 and 1978, respectively.



Normal: Long term average from 1991 to 2020
 Well Below Average: Rainfall less than 40% of normal
 Below Average: Rainfall between 40 to 79%
 Rain Day: Rainfall ≥ 0.1 mm

Average: Rainfall between 80 to 119%
 Above Average: Rainfall between 120 to 199%
 Well Above Average: Rainfall greater than or equal to 200% of normal

4. AIR TEMPERATURES

A. Maximum Day-time Air Temperatures

Normal to above normal day-time air temperatures were observed across the country during the month. Out of the 21 climate stations that reported in time for the analysis of data, 12 recorded anomalies $\geq +0.5^{\circ}\text{C}$, 8 within $\pm 0.5^{\circ}\text{C}$, and 1 with anomalies $\leq -0.5^{\circ}\text{C}$.

On average, the warmest days were recorded at both Seaqaqa and RKS Lodoni with 30.1°C , followed by both Labasa Airfield and Yaqara with 30.0°C , Matuku and Rotuma both with 29.8°C , Viwa with 29.7°C , and Nadi Airport with 29.1°C . Consequently, Monasavu recorded the coolest days on average with 22.2°C , followed by Nadarivatu with 22.9°C , Ono-i-Lau with 26.1°C , Vunisea with 26.7°C , Nausori Airport and Laucala Bay (Suva) both with 27.0°C , Navua, Nabouwalu and Nacocolevu all with 27.2°C , and Savusavu Airfield with 27.3°C .

The month's highest day-time temperature of 33.7°C was observed at Yaqara on the 19th, followed by both Seaqaqa and Labasa Airfield with 33.6°C on the 18th, and 19th, respectively, Matuku with 32.8°C on the 19th, Nadi Airport with 32.6°C on the 20th, and Viwa with 32.3°C on the 19th. On the other hand, the coolest day-time temperature of 18.5°C was at Monasavu on the 7th, followed by Nadarivatu with 18.9°C on the 15th, Seaqaqa with 20.0°C on the 8th, Ono-i-Lau with 23.8°C on the 15th, and Korolevu with 24.0°C on the 7th.

There were no new day-time temperature records established during the month.

B. Minimum Night-time Air Temperatures

Normal to below normal night-time temperatures were recorded at majority of the climate stations during the month. For the 23 stations that reported in, 6 recorded anomalies $\geq +0.5^{\circ}\text{C}$, 8 within $\pm 0.5^{\circ}\text{C}$, and 9 with anomalies $\leq -0.5^{\circ}\text{C}$.

The coolest nights on average were at Nadarivatu with 14.6°C , followed by Monasavu with 15.7°C , Rarawai Mill (Ba) with 16.4°C , Nacocolevu and Sigatoka both with 17.6°C , Labasa Airfield and Seaqaqa both with 18.0°C , Nadi Airport with 18.1°C , and Korolevu with 18.7°C . Consequently, on average, the warmest night-time temperatures were observed at Rotuma with 25.5°C , Laucala Bay (Suva) with 22.7°C , Viwa with 22.4°C , and both Lakeba and Vanuabalavu with 22.2°C .

The coolest daily night-time temperatures were recorded during the beginning of the month. The lowest night-time temperature of 10.9°C was recorded at Nadarivatu on the 7th, followed by Labasa Airfield with 12.8°C on the 7th, Rarawai Mill (Ba) with 13.0°C on the 8th, Sigatoka and Seaqaqa both with 13.7°C on the 6th and 7th, respectively, and Monasavu with 13.8°C on the 31st. On the other hand, the warmest night-time temperature of 26.7°C was recorded at Rotuma on the 21st, followed by Penang Mill with 26.0°C on the 3rd, RKS Lodoni with 25.9°C on the 23rd, and Laucala Bay (Suva) with 25.5°C on the 4th.

There were no new night-time temperature records established during the month.

TABLE 1. CLIMATE RECORDS ESTABLISHED IN AUGUST 2024

<u>Element</u>	<u>Station</u>	<u>Observed (record)</u>	<u>On</u>	<u>Rank</u>	<u>Previous (record)</u>	<u>Year</u>	<u>Records Began</u>
Daily Rainfall	Monasavu	214.0mm	25 th	New High	152mm	1982	1980
Daily Rainfall	Viwa	122.5mm	25 th	New High	87.4mm	1997	1978

Note: All comparisons in this summary are with respect to “Climatic Normals”. This is defined to be the average climate condition over a 30-year period. Fiji uses 1991-2020 period as its “climatic normal” period.

TABLE 2. DAILY CLIMATE REPORTING SITES: SUMMARY FOR AUGUST 2024

	RAINFALL					AIR TEMPERATURES								SUNSHINE			
	TOTAL	RAIN		MAX.		AVERAGE DAILY				EXTREME				TOTAL	*		
	MM	* DAYS	% +	MM	ON	MAX.	#	MIN.	#	MAX.	MIN.	C	ON	C	ON	HRS	%
NADI AIRPORT	100.9	156	2	98	25	29.1	0.6	18.1	-1.2	32.6	20	14.9	8	275	124		
LAUCALA BAY	215.3	149	17	153	25	27.0	0.0	22.7	1.3	30.0	3	17.9	18	181	132		
NACOCOLEVU RESEARC	80.3	108	5	46	25	27.2	-0.9	17.6	-0.6	30.1	19	13.9	8	218	160		
ROTUMA ISLAND (AWS)	22.5	9	11	6	1	29.8	0.1	25.5	0.9	31.0	4	24.0	29				
VIWA ISLAND	126.8	157	3	122	25	29.7	1.1	22.4	0.0	32.3	19	19.0	8				
YASAWA-I-RARA (AWS)	52.0	85	3	48	24	29.0	0.3	21.4	-0.7	31.9	21	18.8	26				
UDU POINT WEATHER	267.6	320	19	168	30	U/S		20.6	-2.1	U/S		18.5	15				
NABOUWALU	32.8	29	5	21	25	27.2	0.3	20.9	-1.2	29.2	19	18.0	15				
LABASA AIRFIELD	36.3	70	7	32	25	30.0	0.1	18.0	-0.9	33.6	19	12.8	7				
SAVUSAVU AIRFIELD	31.9	32	8	18	25	27.3	0.2	21.7	0.3	30.5	3	18.6	30				
KORONIVIA RESEARCH	196.3	137	19	118	25	27.4	0.7	19.8	-0.2	30.2	19	16.3	7				
NAUSORI AIRPORT	223.2	158	17	137	25	27.0	0.6	19.6	-0.3	30.0	19	16.0	7				
NAVUA (AWS)	252.0	119	17	131	25	27.2	1.0	19.2	-0.2	29.2	19	15.2	6				
MONASAVU HYDRO DAM	356.7	146	23	214	25	22.2	0.5	15.7	0.0	26.2	20	13.8	31				
FSC LAUTOKA MILL	104.1	148	2	103	25	29.0	0.2	19.0	-1.0	30.5	28	16.4	13				
FSC RARAWAI MILL	134.6	206	2	131	25	U/S		16.4	-1.5	U/S		13.0	8				
FSC PENANG MILL	108.8	171	7	97	25	28.6	0.5	21.0	0.3	30.6	3	15.2	29				
MATEI AIRFIELD	102.9	100	18	55	30	28.2	0.7	19.9	-2.1	29.8	20	16.9	26				
VANUABALAVU (AWS)	87.0	110	12	44	30	27.6	0.4	22.2	0.2	27.6	1	18.1	1				
LAKEBA (AWS)	0.5	1	1	1	31	27.5	0.7	22.2	0.9	29.4	18	17.0	29				
VUNISEA (AWS)	196.0	166	13	104	1	26.7	0.6	20.7	0.5	30.8	19	17.5	6				
MATUKU (AWS)	111.0	101	14	67	25	29.8	3.4	21.6	0.6	32.8	19	18.3	6				
ONO-I-LAU	44.7	37	15	15	31	26.1	0.9	20.8	0.8	29.5	19	18.8	15				
YAQARA AWS	80.5	135	2	79	25	30.0		21.3		33.7	19	15.7	29				
LEVUKA AWS	13.5		4	9	25	U/S		U/S		U/S		U/S					
KEIYASI AWS	99.0		2	90	25	U/S		U/S		U/S		U/S					
LOMAIVUNA AWS	U/S			U/S		U/S		U/S		U/S		U/S					
NADARIVATU AWS	145.0		7	125	25	22.9		14.6		26.8	20	10.9	7				
RKS LODONI AWS	137.5		15	100	25	30.1		21.9		31.9	19	18.2	29				
MOMI AWS	65.5		2	57	25	28.5		19.5		31.4	19	16.7	6				
SIGATOKA AWS	35.0		5	20	25	27.4		17.6		29.3	3	13.7	6				
VATUREKUKA AWS	48.0		7	42	25	28.4		18.9		31.7	19	14.9	9				
KOROLEVU AWS	79.0		5	42	25	27.4		18.7		31.2	19	13.9	6				
WAINIKORO AWS	57.0		7	38	25	28.8		19.8		31.2	4	14.3	7				
SAQANI AWS	78.5		10	44	25	28.9		22.0		32.1	21	19.0	26				
SEAQAQA AWS	53.0	92	6	27	25	30.1		18.0		33.6	18	13.7	7				
DOBUILEVU TB3	117.5	140	14	92	25												
NASINU TB3	222.5		14	147	25												
TAVUA TB3	163.0	235	2	157	25												

	TEMPERATURE(C)				HUMIDITY		WIND	
	DRY		WET		RH%		VP	
	MEAN	(AVERAGE AT 9AM)	MEAN	(AVERAGE AT 9AM)	KT	KT	KT	KT
NADI AIRPORT	23.6	24.3	20.4	69	22.7	7.0		
LAUCALA BAY	24.9	24.9	22.0	77	23.5	6.7		
NACOCOLEVU RESEARC	22.4	23.4	21.0	81	21.5			
ROTUMA (AWS)	27.7							
VIWA ISLAND	26.1	26.7	22.7	71	26.2			
YASAWA-I-RARA (AWS)	25.2							
UDU POINT WEATHER	U/S	26.1	23.2	78	25.3			
NABOUWALU	24.0	25.2	21.8	74	24.0			
LABASA AIRFIELD	24.0	26.0	22.0	70	25.1	15.0		
SAVUSAVU AIRFIELD	24.5	25.0	21.6	74	23.7	9.8		
KORONIVIA RESEARCH	23.6	24.5	22.6	85	23.0			
NAUSORI AIRPORT	23.3	24.3	21.6	78	22.7	5.7		
NAVUA (AWS)	23.2							
MONASAVU HYDRO DAM	19.0	18.3	17.9	96	15.7			
FSC LAUTOKA MILL	24.0	24.9	23.4	89	23.5			
FSC RARAWAI MILL	U/S	24.7	22.7	85	23.3			
FSC PENANG MILL	24.8	25.3	21.7	73	24.1			
MATEI AIRFIELD	24.0	25.8	22.3	73	24.8	14.6		
VANUABALAVU (AWS)	24.9							
LAKEBA (AWS)	24.9							
VUNISEA (AWS)	23.7							
MATUKU (AWS)	25.7							
ONO-I-LAU	23.5	24.2	20.5	71	22.6			

MEAN TEMPERATURE IS (MAX+MIN)/2; WIND IS MEAN SPEED AT 06,12,18,24 HOURS.
 \$:SOLAR RADIATION CALCULATED FROM SUNSHINE DURATION. # :DEPARTURE FROM LONG-TERM AVERAGES (1981-2010). + :NUMBER OF DAYS WITH 0.1 MM OR MORE RAIN. * :PERCENT OF LONG-TERM AVERAGES.
 BLUE FONT: MISSING RECORDS OF LESS THAN OR EQUAL(≤) TO 5 DAYS. U/S: UNSERVICEABLE

Figure 2

Nadi Airport (Western Division) - Temperature & Rainfall Records for the last 13 Months (August 2023 - August 2024)

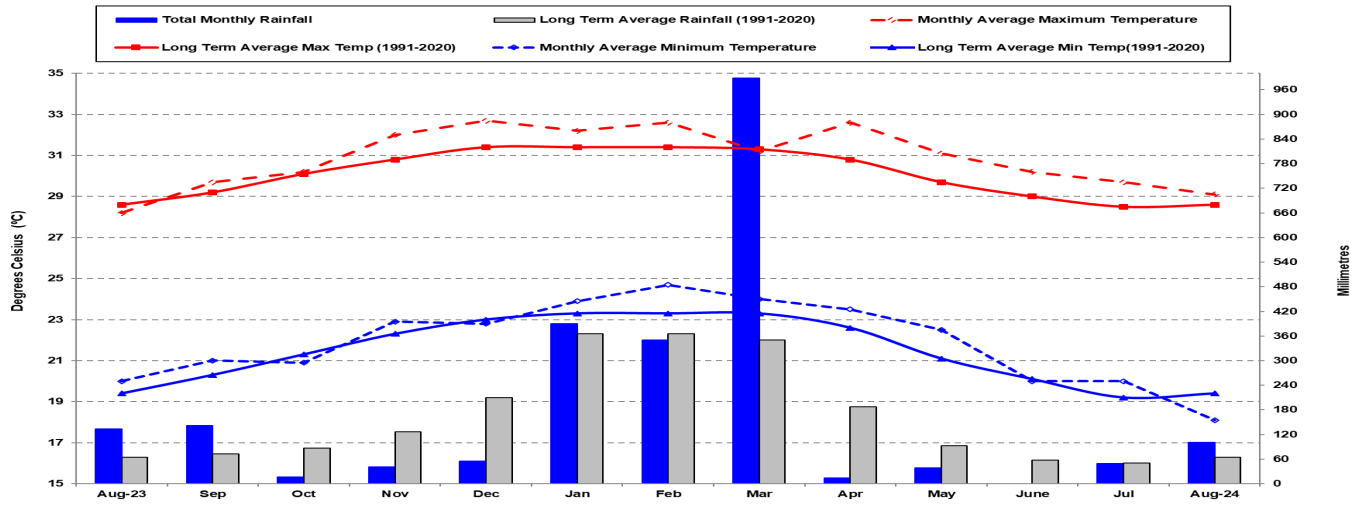


Figure 3

Laucala Bay - (Suva) (Central Division) - Temperature & Rainfall Records for the last 13 Months (August 2023 - August 2024)

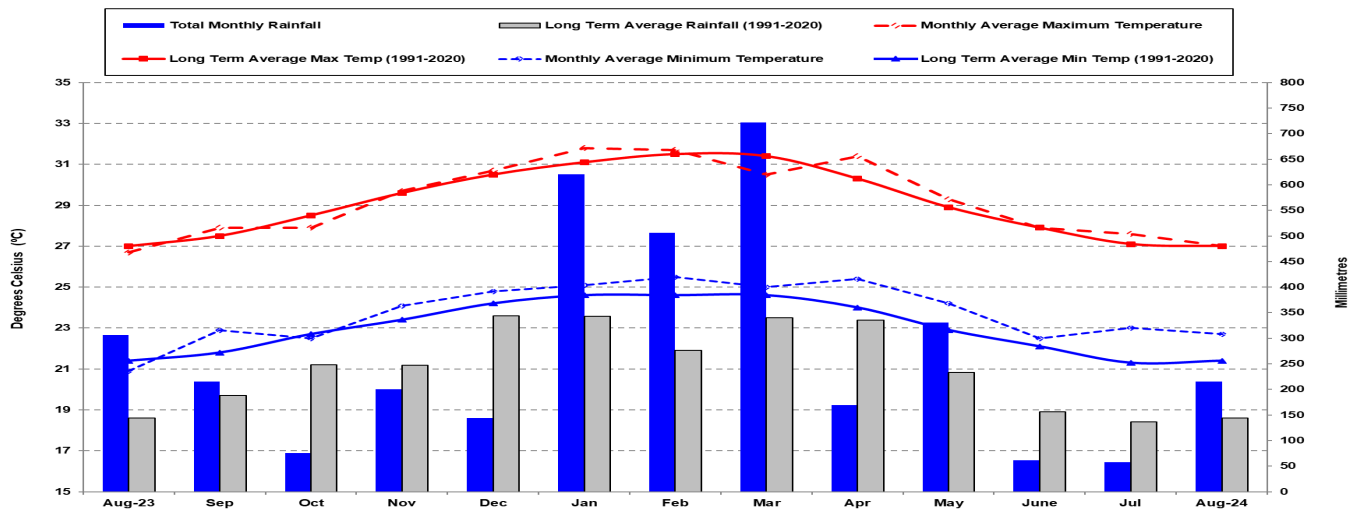


Figure 4

Udu Point (Eastern Division) - Temperature & Rainfall Records for the last 13 Months (August 2023 - August 2024)

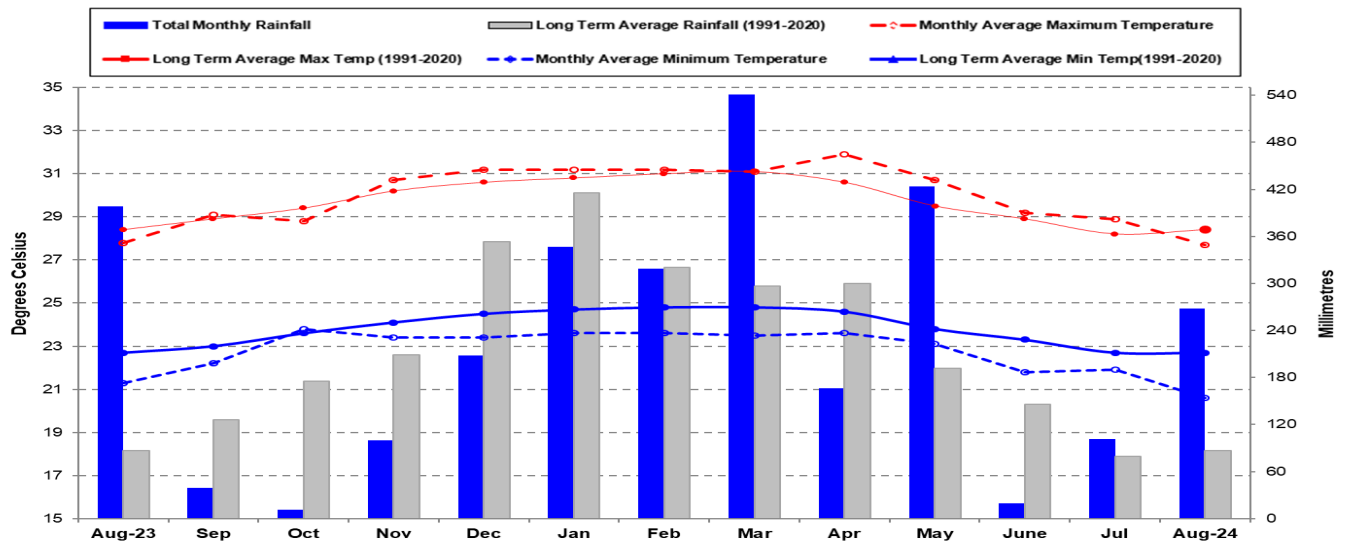
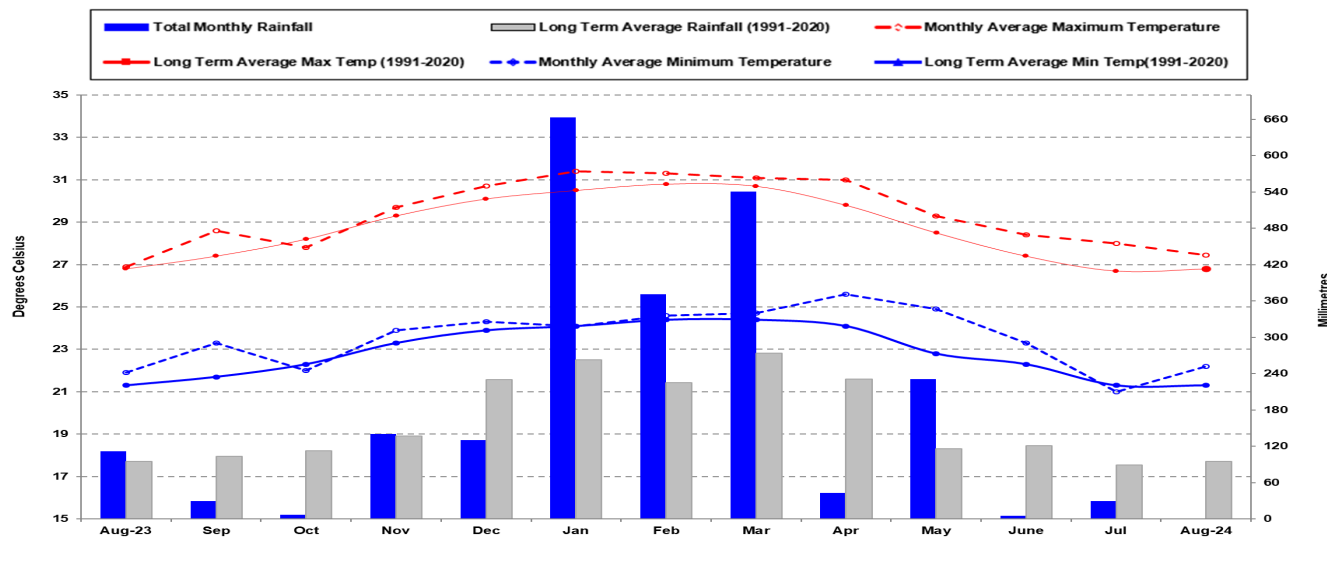


Figure 5

Lakeba (Eastern Division) - Temperature & Rainfall Records for the last 13 Months (August 2023 - August 2024)



5. DAILY RAISED PAN EVAPORATION

Figure 6

Daily Evaporation for August 2024

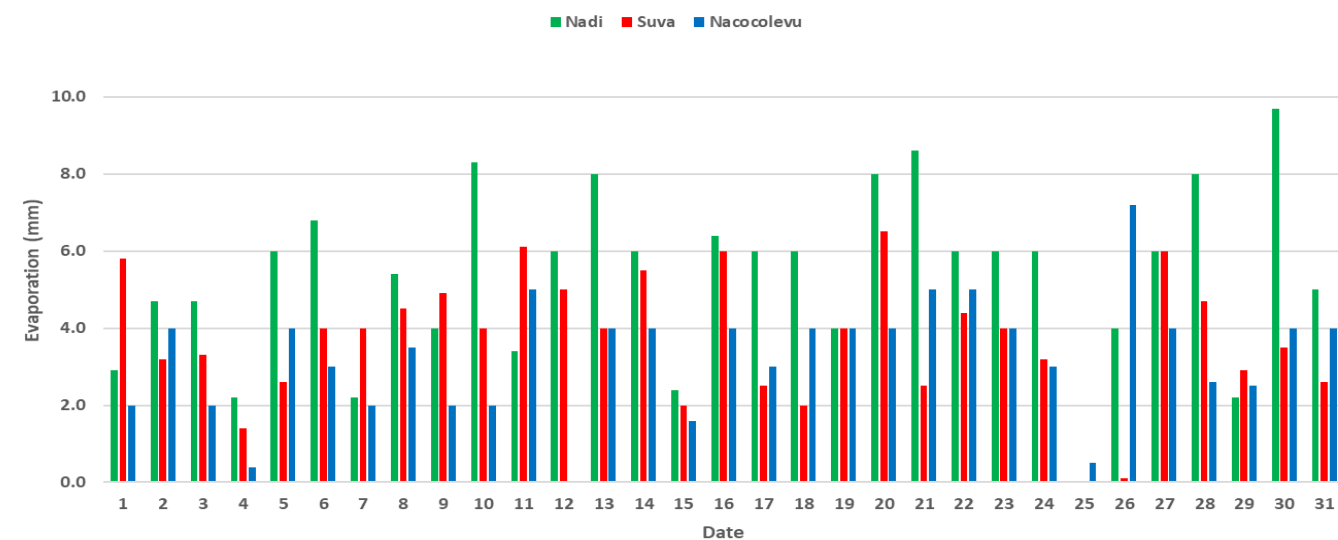


Figure 6: The total monthly raised pan evaporation at Nadi Airport, Laucala Bay (Suva) and Nacocolevu (Sigatoka) were 164.9mm, 115.2mm and 100.3mm, respectively. Nadi’s highest daily evaporation was 9.7mm on the 30th with Suva’s highest daily evaporation of 6.5mm on the 20th, and Nacocolevu (Sigatoka) recorded its highest of 7.2mm on the 26th.

6. SOLAR RADIATION

The Nadi solar radiation instrument was unserviceable during the month of August 2024.

7. WIND SUMMARY

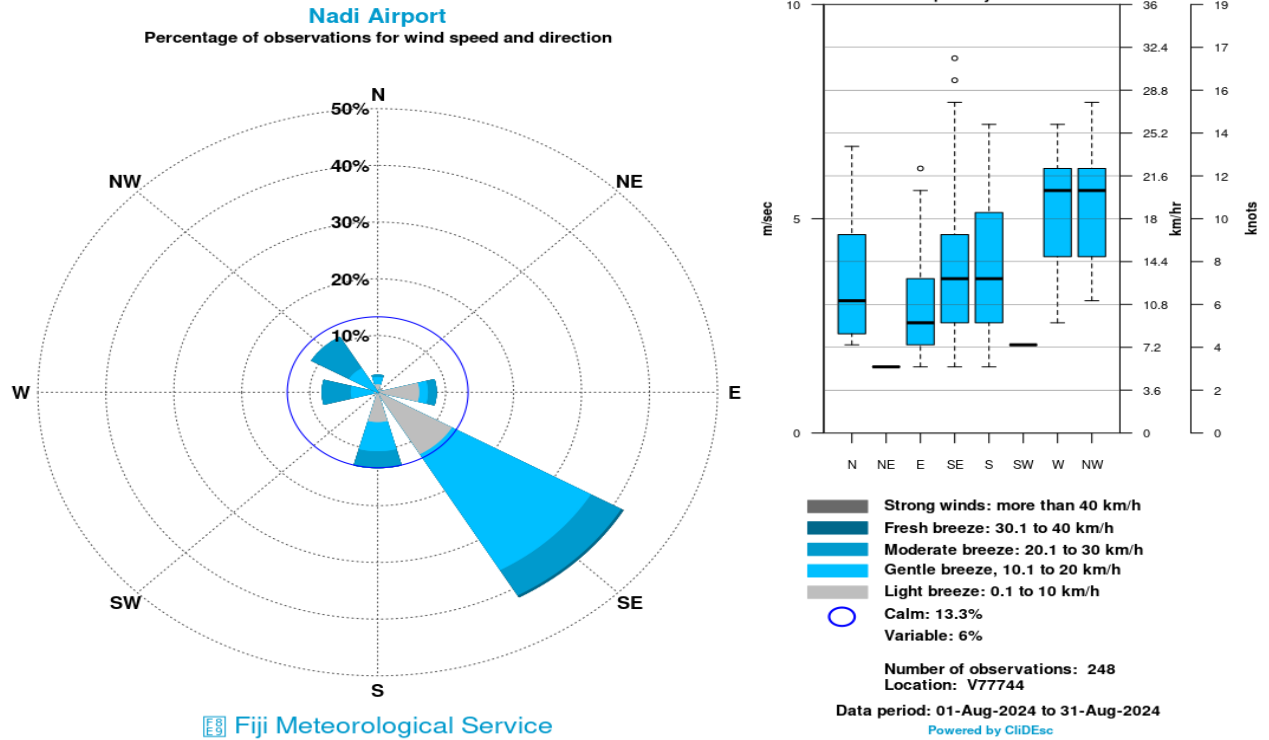


Figure 7a: Looking at Nadi’s 3 hourly observations, southeasterly winds were most dominant during the month, followed by southerly and then northwesterly winds. Wind strength ranged from light to fresh breeze, while 13.3% observations accounted for calm winds.

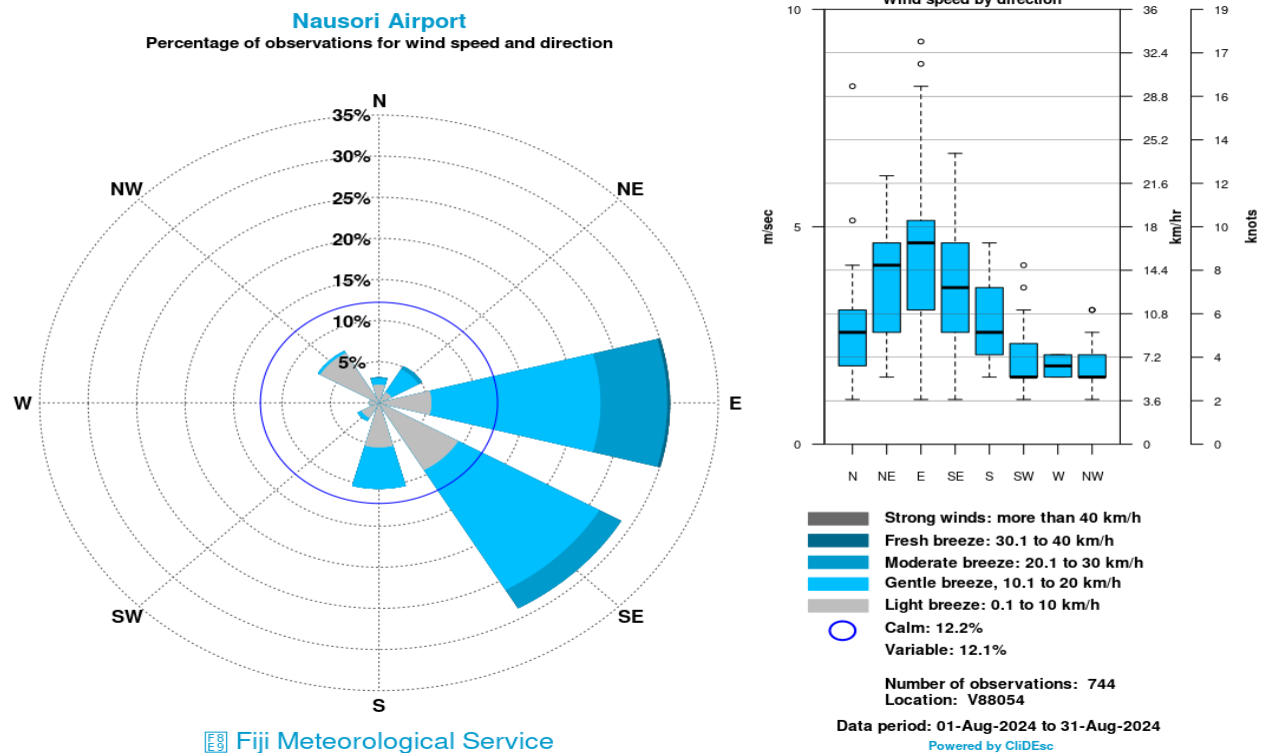


Figure 7b: For Nausori Airport’s hourly wind observations, easterly winds were most dominant during the month, followed by southeasterly and then southerly winds. Wind strength ranged from light to fresh breeze, while 12.2% observations accounted for calm winds.

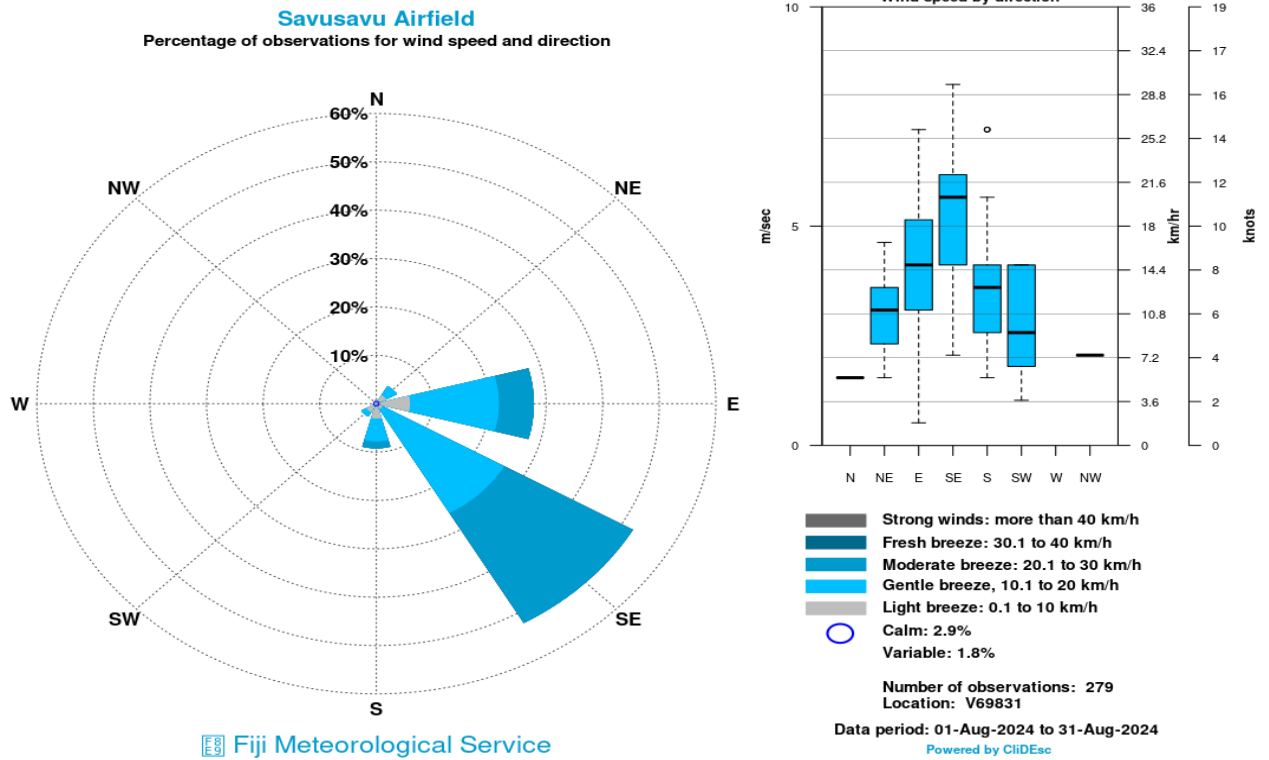


Figure 7c: For Savusavu Airfield’s hourly observations (0800hrs to 1600hrs), southeasterly winds were most dominant during the month, followed by easterly and then southerly winds. Wind strength ranged from light to moderate breeze, with calm winds observed 2.9% of the time.

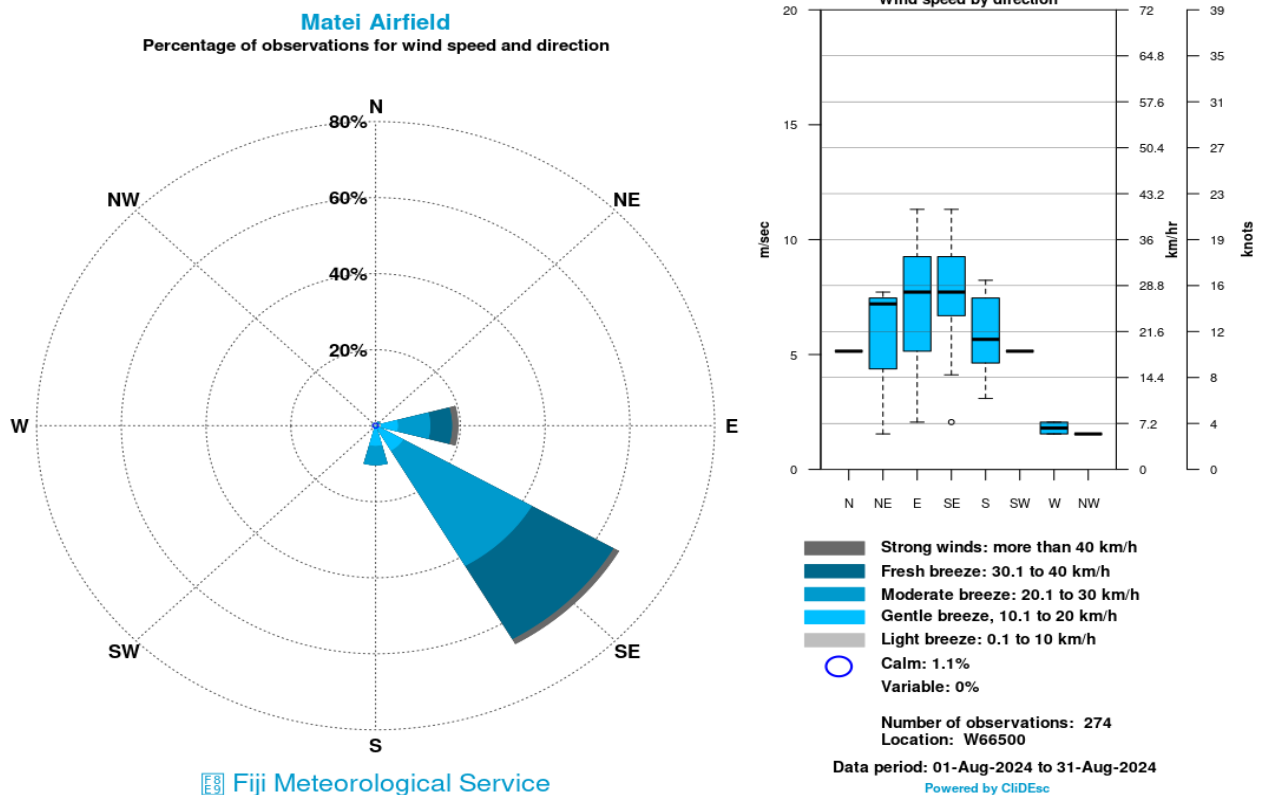


Figure 7d: For Matei Airfield’s hourly wind observations (0800hrs to 1600hrs), southeasterly winds were dominant followed by easterly and then southerly winds. Wind strength ranged from light to strong winds, with calm winds observed 1.1% of the time.

8. SEA SURFACE TEMPERATURE (SST)

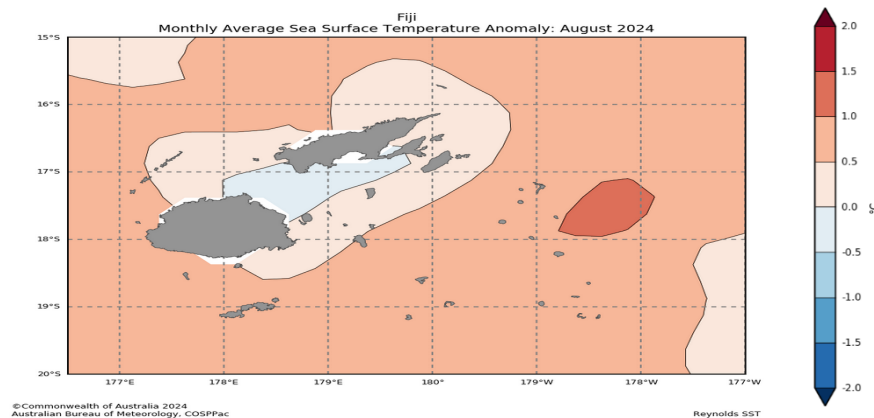


Figure 8: Warmer than normal sea surface temperature anomalies were observed across most of the Fiji Waters, with anomalies 0.5-1.5°C, while cooler than normal SST anomalies were observed across Vatu-I-ra passage.

Source: <http://oceanportal.spc.int/portal/app.html#climate>

9. CLOUD COVER

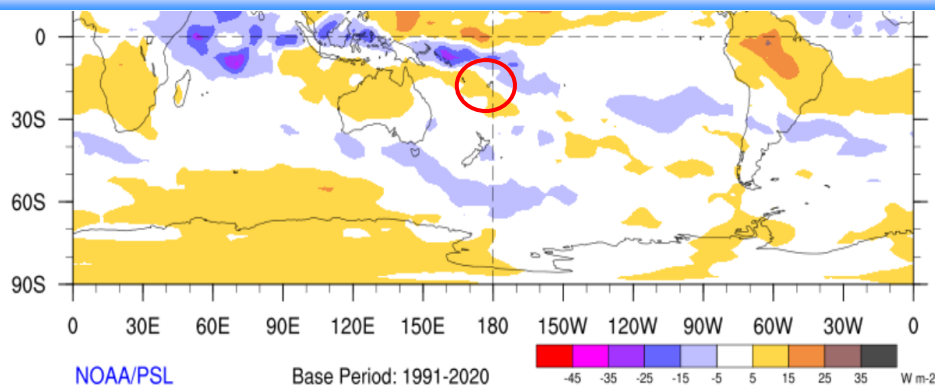


Figure 9: Below normal cloud cover was present over the Fiji Group during August (Fiji in red circle).

Source: <http://www.esrl.noaa.gov/psd/map/clim/olr.shtml>

10. SEA LEVEL

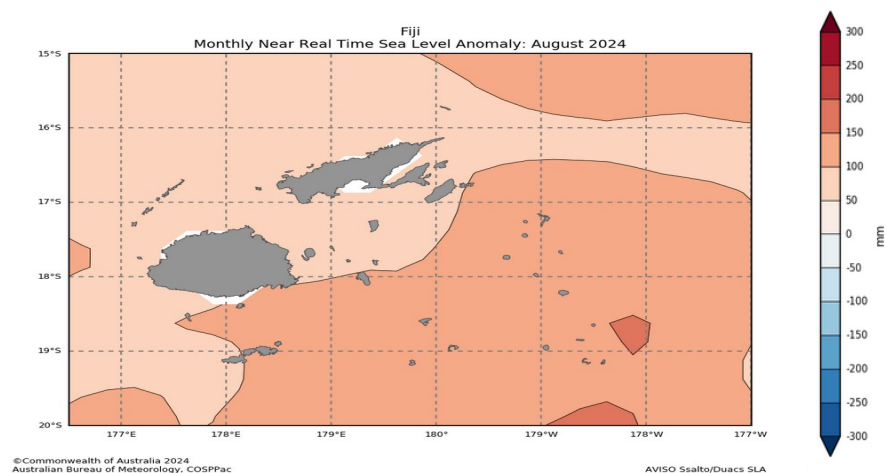


Figure 10: Above normal sea level anomalies persisted across most of the Fiji Waters during August.

Source: <https://oceanportal.spc.int/portal/app.html#sealevel>

11. WIND ANOMALIES

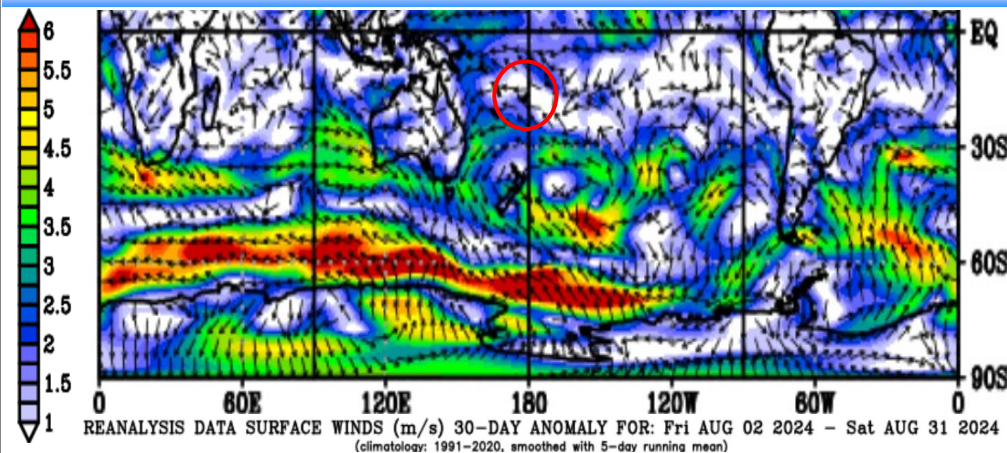


Figure 11: Southeast winds were observed over the Fiji Group during the month (base period: 1991-2020) (Fiji in red circle).

Source: https://www.esrl.noaa.gov/psd/map/images/rnl/sfcwnd_30b.rnl.html

EXPLANATORY NOTES

Anomalies - denote the departure of an element (rainfall, temperature, sea surface temperature, cloud cover, sea level and wind) from its long-period average value for a particular location.

Trough - an elongated area of low atmospheric pressure that is associated with a cyclone, or low. Sometimes referred to as a 'trough of low pressure'.

Rain - Liquid precipitation in the form of water droplets. Rain falls from dense, continuous clouds, called 'stratiform' clouds.

Shower - precipitation from individual clouds, often characterised by the sudden beginning or ending. Showers fall from 'lumpy looking', 'cauliflower' clouds, called 'cumuloform' clouds.

Trade Winds - the trade winds are the east to southeasterly winds (in the Southern Hemisphere) which affect tropical and subtropical regions.

High pressure systems or anticyclones are atmospheric circulations that rotate anti-clockwise in the Southern Hemisphere. Anticyclones are areas of higher pressure and are generally associated with lighter winds and fine and settled conditions.

Low pressure systems or mid-latitude cyclones are atmospheric circulations that rotate clockwise in the Southern Hemisphere (anti-clockwise in the Northern Hemisphere). Cyclones are areas of lower pressure and generally associated with stronger winds, unsettled conditions, cloudiness and rainfall.

Sea Surface Temperature (SST) - the temperature of the water's surface. It is usually measured using buoys, ship data, and satellites.